

Rotational Grazing Demonstrations with Beef Cows on CRP Land in Adams County, 2001

Chris Nelson, Adams County extension education director

Rick Sprague, Adams County district conservationist, NRCS

Russell BreDahl, extension field specialist, beef-forage

Brian Peterson, grassland conservationist, NRCS

Bill Bartenhagen, Adams County FSA director

John Klein, NRCS project manager

Introduction

Two rotational-grazing systems have been demonstrated on CRP land near Corning, Iowa, annually from 1991–2001. This report summarizes the 2001 production data. A 13-paddock intensive-rotational grazing system and a 4-paddock rotational grazing system were established in 1991 to show economically feasible grass alternatives to row crops and CRP for steeply sloping (9%–14% slope), highly-erodible land (HEL).

Results and Discussion

On a 13-paddock grazing system in 2001, 22 crossbred calves nursing crossbred dams gained 2.23 lbs/head/day for 119 days (Table 2). The stocking rate on this grazing system was 1.57 acres/cow–calf pair. Cattle numbers were reduced from the previous year's level because of a dry fall in 2000.

Grazing started late in 2001 due to health problems with the baby calves prior to delivery to the pasture. To utilize rapidly growing forage, 15 large round bales of hay were harvested on the 13-paddock system (Table 4). Four bales were fed in late summer for a net gain of 11 bales. Grazing began on May 21 and ended September 17. Calves were fed no creep. Cattle were rotated to a fresh paddock 44 times during 119 days of grazing. Rainfall in July and August was below normal (Table 1). Due to the dry conditions, cow–calf pairs were removed in mid-September, ending the grazing season early. Total calf production/acre in 2001 was 168.85 lbs. This was well below the 11-year average of 208.85 lbs/acre. Cows on this system gained 51.4 lbs on average during the summer.

Grazing also started late (May 21) on the nearby 4-paddock system (Table 3). The stocking rate with 13 cow–calf pairs was 1.72 acres/pair. This system produced 157.34 lbs of calf gain/acre with the calves gaining 2.27 lbs/day for 119 days. Cows gained 113.38 lbs in 2001 on this system. Thirteen and one-half big round bales of hay were produced on the 4-paddock system and 8 were fed for a net gain of 5.5 bales (Table 4).

Table 1. Precipitation at Corning, Iowa, 2001 (inches of rainfall) – 2 locations.

Month	Normal 1961-1990	Corning Hospital 2001	Deviation from Normal 2001	CRP Farm	
				(2 sites averaged) 2001	CRP Farm Deviation 2001
January	.88	2.10 (7 events)	+1.22	NA	NA
February	.84	2.58 (7 events)	+1.74	NA	NA
March	2.34	1.22 (5 events)	-1.12	NA	NA
April	3.33	2.49 (11 events)	-0.84	NA	NA
May	4.41	8.42 (20 events)	+4.01	7.70	+3.29
June	4.54	5.31 (12 events)	+0.77	5.30	+0.76
July	4.45	2.81 (8 events)	-1.64	2.15	-2.30
August	4.68	0.84 (3 events)	-3.84	0.90	-3.78
September	4.69	4.98 (8 events)	+0.29	4.70	+0.01
October	2.70	0.94 (5 events)	-1.76	NA	NA
November	1.88	0.82 (4 events)	-1.06	NA	NA
December	1.21	0.55 (6 events)	-0.66	NA	NA
ANNUAL	35.95	33.06	-2.89	NA	NA

Table 2. Adams County CRP Project 13-paddock grazing system production data with cow-calf pairs. 1996-2001 yearly data plus an 11-year average for the system.

Year	1996	1997	1998	1999	2000	2001	11-year avg. (1991-2001)
Acres in system	34.60	34.60	34.60	34.60	34.60	34.60	34.60
No. of pairs	21.00	21.00	21.00	22.00	25.00	22.00	21.82
Pairs/acre	0.61	0.61	0.61	0.64	0.72	0.64	0.63
Acres/pair	1.65	1.65	1.65	1.57	1.38	1.57	1.59
Days grazed	160	141	145	156	140	119	145
Calf beg. wt. (lbs)	157.62	131.67	126.14	126.00	134.00	171.45	140.53
Calf ADG	2.26	2.41	2.23	2.20	2.20	2.23	2.28
Avg. calf gain	360.86	336.71	322.71	343.60	310.30	265.09	332.07
Calf gain/acre	219.02	204.40	195.87	218.85	224.86	168.85	208.85
Cow beg. wt. (lbs)	1150.48	1107.90	1086.38	1166.00	1184.00	1081.05	1133.77
Cow wt. chg.	66.00	56.81	109.71	52.80	-10.70	51.40	59.60
Cow cond. chg.	0.57	0.39	0.45	0.70	-0.30	-0.46	0.29
Cow days/acre	97.11	85.58	88.01	99.19	101.16	75.66	91.37

Table 3. Adams County CRP Project 4-paddock grazing system production data with cow-calf pairs. 1996-2001 yearly data plus an 11-year average for the system.

Year	1996	1997	1998	1999	2000	2001	11 Year Avg. (1991-2001)
Acres in system	22.40	22.40	22.40	22.40	22.40	22.40	22.40
No. of pairs	13.00	13.00	13.00	13.00	14.00	13.00	13.27
Pairs/acre	0.58	0.58	0.58	0.58	0.63	0.58	0.59
Acres/pair	1.72	1.72	1.72	1.72	1.60	1.72	1.69
Days grazed	160	141	145	143	140	119	144
Calf beg. wt. (lbs)	162.23	139.08	114.08	114.00	142.00	184.00	142.84
Calf ADG (lbs)	2.28	2.29	2.18	2.33	2.30	2.27	2.32
Avg. calf gain	365.15	322.62	316.38	333.50	328.00	270.62	335.21
Calf gain cre	211.92	187.23	183.62	193.90	205.00	157.34	198.35
Cow beg. wt. (lbs)	1152.54	1118.31	1050.23	1196.00	1175.00	1047.85	1129.58
Cow wt. chg.	97.00	76.77	111.00	13.70	15.00	113.38	72.60
Cow cond. chg.	0.46	0.46	0.54	0.50	-0.20	-0.23	0.26
Cow days/acre	92.86	81.83	84.15	82.99	87.50	69.06	85.43

Table 4. Hay Production & Use, Adams County CRP Farm. Large Round Bales.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	11 Year Ave.
<u>13-paddock System</u>												
Produced	9	9	0	0	11	26	6	10	0	0	15	7.8
Fed	8	16	9	0	4	10	6	4	4	0	4	5.9
Net Hay Production	+1	-7	-9	0	+7	+16	0	+6	-4	0	11	1.9
<u>4-paddock System</u>												
Produced	11	3	0	0	0	0	0	12	18	0	13.5	5.2
Fed	0	14	7	1	4	7	0	1	4	0	8	4.2
Net Hay Production	11	-11	-7	-1	-4	-7	0	11	14	0	5.5	1.0